Passaic River Community Advisory Group Draft Requests for Information and Technical Assistance
Revised Draft, May 10, 2012

Background

The Passaic River Community Advisory Group (CAG) understands that there are several available technologies for decontaminating sediments. Sediment washing and thermal treatment technologies were previously tested using small amounts of Passaic River sediments and these continue to be the most viable options. The CAG feels strongly these previous tests do little to provide the knowledge needed to select these technologies for full-scale application. Few of the technologies under consideration have been used in full-scale application, much less on similar sediments and conditions to the Passaic. In addition, Newark is already burdened by significant sources of historical and current contamination, and we would need to look very closely at the air pollution ramifications of any thermal treatment technology. As such, we welcome the chance to gain further insight and information that would be available from the proposed pilot testing of materials from river mile 10.9. However, The Passaic River CAG would not be comfortable with simply relying on vendor reports and endorsements, or the ultimate conclusions of the CPG.

Desired Technical Assistance

The Passaic River CAG would like to have access to one or more independent technical experts who are not associated with the specific vendors or technologies being evaluated to provide an independent analysis of the strengths and limitations of sediment washing, thermal treatment and any other viable technologies and provide an evaluation and recommendations directly to the CAG. Technologies to review would include, but not be limited to, technologies proposed by vendors that respond to the bench and pilot scale test opportunities at River Mile 10.9, to include the “Cement Lock” process (Volcano Properties, LLC) and the Biogenesis process.

Technical review experts will require demonstrable expertise in the cleanup of contaminated sediment including air quality monitoring, organic contaminant chemistry and preferably, environmental engineering.

We envision that this technical review will be conducted in two parts: 1) an overall assessment of the range of available and viable technologies that could be applicable to cleanup of the Passaic, and 2) a detailed evaluation of available bench, pilot, and full-scale treatment results and a side-by-side analysis of feasible technologies.

Proposed Tasks in the Phase I Assessment

1. Identify the full range of available reports, studies, and information that describe sediment decontamination technologies, processes, construction, waste streams, etc. of the decontamination technology(ies). Provide a very brief description of each report and its potential value as a resource in the evaluation of the technology selection on the Passaic.
2. Identify and briefly describe all available sediment treatment technologies that are potentially applicable to the Passaic cleanup, status of development, where they have been used before, and their historical effectiveness,

Proposed Tasks in the Phase II Technical Analysis

1. Review and summarize results of the sediment decontamination bench scale and/or pilot tests conducted by the Cooperating Parties Group for River Mile 10.9 sediment removal action in Lyndhurst, New Jersey. Identify the strengths and weaknesses of the results as pertaining to their usefulness in making a final technical selection.
2. Identify any sediment decontamination vendor permits and/or construction plans for decontamination facilities in the Newark Bay/Passaic River region, if available.
3. Review the reports identified in Phase I as most relevant to the Passaic River cleanup and identify the key lessons learned they provide in consideration of a final remedy,
4. Using information contained in the reviewed reports, along with results from any bench/pilot scale projects and full-scale applications, identify all sediment treatment technologies that should be considered for treatment at the Passaic River and assess the capacity of each one to scale up to handle the potential volume of sediment for the Passaic River cleanup. Prepare a summary report that compares the technologies (preferably in a side-by-side type of comparison), provide the following information at a minimum and clearly identify any gaps where data is missing or insufficient to make such determinations:
    - The potential for the technology to handle the volume and characteristics of the contaminated sediments in the Passaic River
    - Processing time and any key parameters or conditions that could affect the time or ability for the technology to succeed
    - Key logistical needs of the technology (including any unique transportation, equipment, and acreage for the decontamination facility(ies))
    - Time and other important considerations for mobilization and demobilization
    - Listing of potential emissions and by-products of each technology, including air pollution considerations and effectiveness of controls, percent volume that can be re-used, percent volume that requires disposal at both municipal and hazardous waste disposal facilities
    - Identify any beneficial end-products that are produced and their commercially viability
    - Make a recommendation on the overall suitability of each decontamination technologies to treat Passaic River sediments, and any important issues that should be considered in the remedy selection process.

Attachment 1. Potential Reports for Review

The CAG expects that technical experts hired will have a wide range of experience and knowledge regarding available technologies and the range of information available that may be useful in evaluation and assessment of these technologies. As a starting point, the CAG offers the following reports that have been brought to our attention that may be included in the Phase I Assessment and ultimately the Phase II Technical Review.

Most Recent Relevant Reports

- Estes, T.J., V.S. Magar, D.E. Averett, N.D. Soler, T. E. Myers, E.J. Glisch and D.A. Acevedo. 2011. Mass Balance, Beneficial Use Products, and Cost Comparisons of Four Sediment Treatment Technologies Near Commercialization. U.S. Army Corps of Engineers, Engineer Research and Development Center. ERDC/EL TR-11-1. March 2011.
- BioGenesis Enterprises, Inc. 2011. Approach to Sediment Decontamination for Lower Passaic River Using the BioGenesis Sediment Decontamination Technology. July 15, 2011.
- BioGenesis Washing BGW, LLC. 2009. Demonstration Testing and Full-Scale Operation of the Biogenesis Sediment Decontamination Process, Final Report. December 17, 2009.
- Tetra Tech, Inc. 2011. Summary of Project and Design Updates for Cement-Lock Technology Manufacturing Plant. Memorandum from S. McGee, Tetra Tech to A. Hendricks, Volcano Partners. November 30, 2011.
- Gas Technology Institute. 2008. Cement-Lock Technology for Decontaminating Dredged Estuarine Sediments, Final Project Report. November 2008.
- Endesco Clean Harbors, LLC. 2008. Sediment Decontamination Demonstration Program – Cement-Lock Technology, Final Report: Phase II Demonstration Tests with Stratus Petroleum and Passaic River Sediments. July 2008.
- Gas Technology Institute. 2008. Cement-Lock Technology for Decontaminating Dredged Estuarine Sediments, Topical Report on Beneficial Use of Ecomelt from Passaic River Sediment at Montclair State University, New Jersey. April 2008.
- Biogenesis Italia, LLC, MHW Americas, Inc., and Jan de Nul, N.V. 2005. *Pilot Scale Demonstration Project of the BiogenesisSM Sediment Decontamination Process, Autorità Portuale di Venezia, Porto Marghera, Venice, Italy*. Springfield, VA.

Additional Reports that May Contain Important Information

- Endesco Clean Harbors, LLC. 2006. Sediment Decontamination Demonstration Program: Cement-Lock Technology Phase I Pilot Test, Final Report. August 2006.
- Endesco Clean Harbors, LLC. 2007. Sediment Decontamination Demonstration Program – Cement-Lock Technology, Topical Report: Phase II – Equipment Modifications and Confirmation Test with Sediment from the Stratus Petroleum Site. October 2007.
- Gas Technology Institute and Endesco Clean Harbors, LLC. 2007. Technical

Memorandum, Cement-Lock Technology for Decontaminating Dredged Estuarine Sediments: Phase II – Demonstration-Scale Project. November 2006-March 2007.

- Gas Technology Institute. 2008. Memorandum, Cement-Lock Update. March 27, 2008.
- Biogenesis Enterprises, Inc., and Roy F. Weston, Inc. 1999. *BiogenesisSM Sediment Washing Technology Full Scale, 40 yd³/hour, Sediment decontamination Facility for the NY/NJ Harbor Region*. Final Report on the Pilot Demonstration Project. Springfield, VA. Submitted to Brookhaven National Laboratory, Upton,
- NY.
- BioGenesis Enterprises, Inc. 2008. *BiogenesisSM Sediment washing Technology, Bench Scale Treatability Study Report Housatonic River–Rest-of-River Site*. Springfield, VA. Final report to ARCADIS, Syracuse, NY.
- Rowe, M. D., R. C. Klein, and K. W. Jones. 1999. *Preliminary evaluation of potential occupational and public health impacts of sediment decontamination facilities for New York/New Jersey Harbor*. Upton, NY: US Department of Energy Brookhaven National Laboratory.